

What is claimed is:

1. An isolated polynucleotide sequence comprising a nucleotide sequence that encodes a polypeptide of SEQ ID NO. 2, or fragments of said sequence.

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2. A composition comprising a polypeptide sequence set out in SEQ ID NO. 2 and fragments thereof, or those which are functionally equivalent.

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3. The DNA segment of claim 1, that encodes the human testis-specific transcriptional factor ALF.

4. The DNA segment of claim 1, comprising a human testis-specific transcriptional factor that includes at least 30 contiguous nucleotides from position 16 to 1617 of SEQ ID NO.:1.

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5. The DNA segment of claim 1, comprising a human testis-specific transcriptional factor that encodes the amino acids of SEQ ID NO.: 2.

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6. The DNA segment of claim 1, whereby the segment encodes amino acids 1 to 478 of SEQ ID NO.: 2.

7. The DNA segment of claim 1, positioned under the control of a promoter.

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8. The DNA segment of claim 1, further defined as comprising a recombinant vector.

9. An isolated nucleic acid segment characterized as:

(a) a nucleic acid segment comprising a sequence that consists essentially of at least 30 contiguous nucleotides that have substantially the same sequence as, or are complementary to, 30 contiguous nucleic acids of SEQ ID NO.:1; or

5 (b) a nucleic acid segment of from 14 to about 1434 nucleotides in length that hybridize to the nucleic acid segment of SEQ ID NO.:1, or complement thereof, under high stringency hybridization conditions.

10. The nucleic acid segment of claim 9, wherein the segment comprises a sequence region of at least 30 contiguous nucleotides from SEQ ID NO.:1, or the complement thereof.

15. The nucleic acid segment of claim 9, wherein the segment comprises a sequence region of at least about 30 nucleotides; or wherein the segment is about 30 nucleotides in length.

12. The nucleic acid segment of claim 11, wherein the segment comprises a sequence region of at least about 30 nucleotides; or wherein the segment is about 30 nucleotides in length.

20 13. The nucleic acid segment of claim 12, wherein the segment comprises a sequence region of at least about 50 nucleotides; or wherein the segment is about 50 nucleotides in length.

25 14. The nucleic acid segment of claim 13, wherein the segment comprises a sequence region of at least about 100 nucleotides; or wherein the segment is about 100 nucleotides in length.

15. The nucleic acid segment of claim 14, wherein the segment comprises a sequence region of at least about 200 nucleotides; or wherein the segment is about 200 nucleotides in length.

5 16. The nucleic acid segment of claim 15, wherein the segment comprises a sequence region of at least about 500 nucleotides; or wherein the segment is about 500 nucleotides in length.

10 17. The nucleic acid segment of claim 16, wherein the segment comprises a sequence region of at least about 1000 nucleotides; or wherein the segment is about 1000 nucleotides in length.

15 18. The nucleic acid segment of claim 16, wherein the segment comprises a sequence region of about 1434 nucleotides; or wherein the segment is about 1434 nucleotides in length.

20 19. The nucleic acid segment of claim 9, wherein the segment is up to 10,000 base pairs in length.

20 20. The nucleic acid segment of claim 19, wherein the segment is up to 5,000 base pairs in length.

25 21. The nucleic acid segment of claim 20, wherein the segment is up to 3,000 base pairs in length.

22. The nucleic acid segment of claim 21, wherein the segment is up to 1,000 base pairs in length.

24. The nucleic acid segment of claim 9, further defined as a RNA segment.

25. A recombinant host cell comprising a DNA segment as defined in claim 9.

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26. The recombinant host cell of claim 25, wherein the DNA segment is introduced into the cell by means of a recombinant vector.

10 27. The recombinant host cell of claim 25, wherein the whole cell expresses the DNA segment to produce the encoded human testis-specific transcriptional factor protein or

peptide wherein said protein or peptide has the amino acid sequence of SEQ ID NO.:2.

28. The recombinant host cell of claim 25, further defined as a bacterial host cell.

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29. The recombinant host cell of claim 28, wherein the bacterial host cell is E. coli.

30. A method of using a DNA segment that includes an isolated testis-specific transcriptional factor gene, comprising the steps of:

- (a) preparing a recombinant vector in which a testis-specific transcriptional factor gene encoding DNA segment, or a fragment thereof, is positioned under the control of a promoter wherein said testis-specific transcriptional factor gene has the sequence of SEQ ID NO.:2;
- (b) introducing said recombinant vector into recombinant host cell;
- (c) culturing a recombinant host cell under conditions effective to allow expression of the encoded testis-specific transcriptional factor gene protein or peptide; and
- (d) collecting said testis-specific transcriptional factor gene protein or peptide.

10 31. A method of making a recombinant vector comprising inserting the isolated DNA segment of SEQ ID NO.:1 into a vector.

15 32. An isolated DNA segment comprising the sequence of Genbank Accession number AF106857, its complement, and fragments of said sequence.

20 33. An isolated polypeptide comprising a mature polypeptide having an amino acid sequence encoded by a nucleic acid segment that is at least 95% identical to SEQ ID NO.:1.

25 34. The isolated polypeptide of claim 33, comprising amino acids 1 to 478 of SEQ ID NO.: 2.

35. An isolated polynucleotide sequence comprising a nucleotide sequence that encodes a polypeptide of SEQ ID NO. 4, or fragments of said sequence.

36. The isolated polynucleotide sequence of claim 35, comprising a nucleic acid molecule that comprises the nucleotide sequence of SEQ ID NO. 3, or fragments of said sequence.

5 37. The DNA segment of claim 35, that encodes a human transcriptional factor related to the *Drosophila* Stoned gene.

38. The DNA segment of claim 35, that encodes the human transcriptional factor SALF.

10 39. The DNA segment of claim 35, comprising a human testis-specific transcriptional factor that includes at least 30 contiguous nucleotides from position 16 to 3824 of SEQ ID NO.:3.

15 40. The DNA segment of claim 35, comprising a human testis-specific transcriptional factor that encodes the amino acids of SEQ ID NO.: 4.

41. The DNA segment of claim 35, which encodes amino acids 1 to 11821 of SEQ ID NO.: 4.

20 42. The DNA segment of claim 35, positioned under the control of a promoter.

43. The DNA segment of claim 35, further defined as comprising a recombinant vector.

25 44. An isolated nucleic acid segment characterized as:

(a) a nucleic acid segment comprising a sequence that consists essentially of at

5 (b) a nucleic acid segment of from 14 to about 3824 nucleotides in length that hybridize to the nucleic acid segment of SEQ ID NO.:3, or complement thereof, under high stringency hybridization conditions.

10 45. The nucleic acid segment of claim 43, wherein the segment comprises a sequence region of at least 30 contiguous nucleotides from SEQ ID NO.:3, or the complement thereof.

15 46. The nucleic acid segment of claim 43, wherein the segment comprises a sequence region of at least about 30 nucleotides; or wherein the segment is about 30 nucleotides in length.

20 47. The nucleic acid segment of claim 45, wherein the segment comprises a sequence region of at least about 30 nucleotides; or wherein the segment is about 30 nucleotides in length.

25 48. The nucleic acid segment of claim 46, wherein the segment comprises a sequence region of at least about 50 nucleotides; or wherein the segment is about 50 nucleotides in length.

49. The nucleic acid segment of claim 47, wherein the segment comprises a sequence region of at least about 100 nucleotides; or wherein the segment is about 100 nucleotides in length.

50. The nucleic acid segment of claim 48, wherein the segment comprises a sequence region of at least about 200 nucleotides; or wherein the segment is about 200 nucleotides in length.

51. The nucleic acid segment of claim 49, wherein the segment comprises a sequence region of at least about 500 nucleotides; or wherein the segment is about 500 nucleotides in length.

5 52. The nucleic acid segment of claim 50, wherein the segment comprises a sequence region of at least about 1000 nucleotides; or wherein the segment is about 1000 nucleotides in length.

10 53. The nucleic acid segment of claim 51, wherein the segment comprises a sequence region of about 3824 nucleotides; or wherein the segment is about 3824 nucleotides in length.

15 54. The nucleic acid segment of claim 43, wherein the segment is up to 10,000 base pairs in length.

55. The nucleic acid segment of claim 53, wherein the segment is up to 5,000 base pairs in length.

20 56. The nucleic acid segment of claim 54, wherein the segment is up to 3,000 base pairs in length.

57. The nucleic acid segment of claim 55, wherein the segment is up to 1,000 base pairs in length.

25 58. The nucleic acid segment of claim 43, further defined as a DNA segment.

59. The nucleic acid segment of claim 43, further defined as a RNA segment.

61. The recombinant host cell of claim 59, wherein the DNA segment is introduced into the cell by means of a recombinant vector.

5 62. The recombinant host cell of claim 59, wherein the whole cell expresses the DNA segment to produce the encoded transcriptional factor protein or peptide wherein said protein or peptide has the amino acid sequence of SEQ ID NO.:4.

10 63. The recombinant host cell of claim 59, further defined as a bacterial host cell.

15 64. The recombinant host cell of claim 62, wherein the bacterial host cell is E. coli.

15 65. A method of using a DNA segment that includes an isolated testis-specific transcriptional factor gene, comprising the steps of:

20 (a) preparing a recombinant vector in which a human transcriptional factor gene encoding DNA segment is positioned under the control of a promoter wherein said testis-specific transcriptional factor gene has the sequence of SEQ ID NO.:4;

(b) introducing said recombinant vector into recombinant host cell;

(c) culturing a recombinant host cell under conditions effective to allow expression of the encoded transcriptional factor gene protein or peptide; and

(d) collecting the human testis-specific transcriptional factor gene protein or peptide.

25 66. A method of making a recombinant vector comprising inserting the isolated DNA segment of SEQ ID NO.:3 into a vector.

67. An isolated DNA segment comprising the sequence of Genbank Accession number AF026169, its complement, and fragments of said sequence.

5 68. An isolated polypeptide comprising a mature polypeptide having an amino acid sequence encoded by a nucleic acid segment that is at least 95% identical to SEQ ID NO.:3.

10 69. The isolated polypeptide of claim 20, comprising amino acids 1 to 1182 of SEQ ID NO.: 4.

15 70. An isolated nucleic acid segment characterized as:

(a) a nucleic acid segment comprising a sequence that consists essentially of at least 30 contiguous nucleotides that have substantially the same sequence as, or are complementary to, 30 contiguous nucleic acids of SEQ ID NO.:5; or

(b) a nucleic acid segment of from 1 to about 30 nucleotides in length that hybridize to the nucleic acid segment of SEQ ID NO.:5, or complement thereof, under high stringency hybridization conditions.